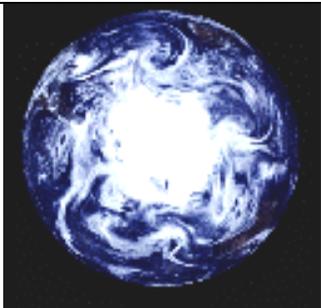


Fast Facts About Earth

Planetary Parameters										
Planet Type	Terrestrial (i.e., a solid, rocky planet)									
Average Distance from Sun (kilometer)	149,600,000									
Equatorial Diameter (kilometer)	12,756									
Mass (10^{24} kilogram)	5.9736									
Volume (10^{10} kilometer ³)	108.32									
Average Density (gram/centimeter ³)	5.52									
Surface Gravity (meter/second ²)	9.78									
Magnetic Field (Gauss-Re ³)	0.3076									
Orbital Parameters										
Year Length (One Orbit Around the Sun)	365.26 Earth days									
Day Length (One Rotation on its Axis)	23.93 Earth hours									
Inclination of Axis (degrees)	23.45									
Atmosphere and Climate										
Average Surface Temperature (C)	15									
Maximum Temperature (C)	47									
Minimum Temperature (C)	-33									
Atmospheric Pressure at Surface	1,014 millibar. The Earth's atmosphere exerts a force of 1.217 kg/m ³ at sea level.									
Major Atmospheric Gasses	78% Nitrogen, 21% Oxygen, 1% Water Vapor, 350 ppm Carbon Dioxide									
Summary of Water	Water exists in all three states at the surface and 75% of surface covered by water.									
Summary of Climate	There is an active water cycle which circulates water and heat energy around the planet. The water cycle enables processes such as recharging surface ground water supplies, weathering, and erosion to exist. In addition, clouds reflect 30% of the incoming solar radiation.									
Planetary Features										
General Overview	The molten mantle enables there to be plate tectonics which is critical for recycling materials in the crust - old crust is continually destroyed and new crust is continually made. In this way, carbon which can exist as carbon dioxide gas or as a solid in carbonate rocks can cycle between the crust and atmosphere and help maintain a stable climate. One reason life was able to arise on Earth is because the conditions have been so stable over the past four-billion years.									
Composition of Poles	2 water ice poles. The poles expand and contract in response to long-term global temperature levels, and this change in size influences sea level.									
Core Composition	A solid iron and nickel core is surrounded by a molten mantle. A thin, solid crust floats on top of the mantle.									
Known Moons/Rings	1 large moon, no rings. Recent reports suggest that the moon was created when a Mars-sized object collided with Earth over four-billion years ago. The large moon helps stabilize Earth's inclination. Large changes in inclination cause large climatic changes and ruin the stability life requires in order to arise.									
Visits to Earth										
1950-59	1957: Sputnik (USSR) became first artificial satellite; 1959: Luna 1 (USSR) first successful mission to the moon and first spacecraft to leave Earth's gravity									
1960-69	1960: TIROS I (US), first weather satellite; 1961: Vostok 1 (USSR) carried first human into space; 1964: Nimbus 1 (US) began a series of missions to study Earth's atmosphere, geology, and oceans; 1968: Apollo (US) astronauts orbit the moon; 1969: Apollo 11 (US), first manned lunar landing									
1970-79	1972: Landsat (US) satellite series begins; 1973: Skylab (US) manned space station; 1976: LAGEOS (US) tracks movement of Earth's surface; 1978: TOMS (US) studies Earth's ozone layer									
1980-89	1984: Earth Radiation Budget satellite begins to study Earth's reaction to the Sun's energy.									
1990-99	1991: UARS (US) collects data on atmospheric chemistry and physics; 1992: OPEX/Poseidon (US) studies Earth's oceans and climate; 1998: Earth Observing Satellite (EOS) (US) launched, EOS is a 10-year series of satellites.									



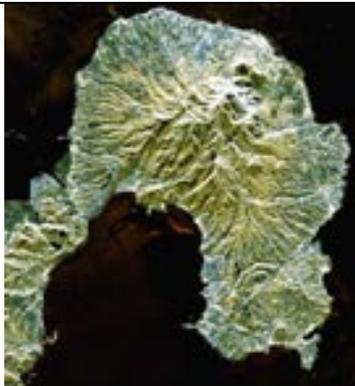
Some Views of Planet Earth



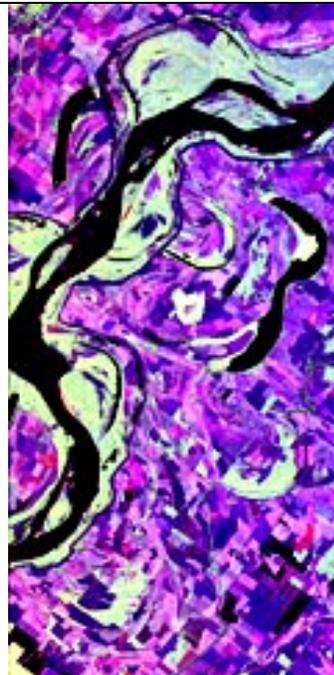
1) Storm systems and oceans surround Earth's South Pole. What elements important to life can you see?



2) Clouds over the Arabian Peninsula, the Indian Ocean, and the Red & Mediterranean Seas. What about this scene suggests that Earth is hospitable to life?



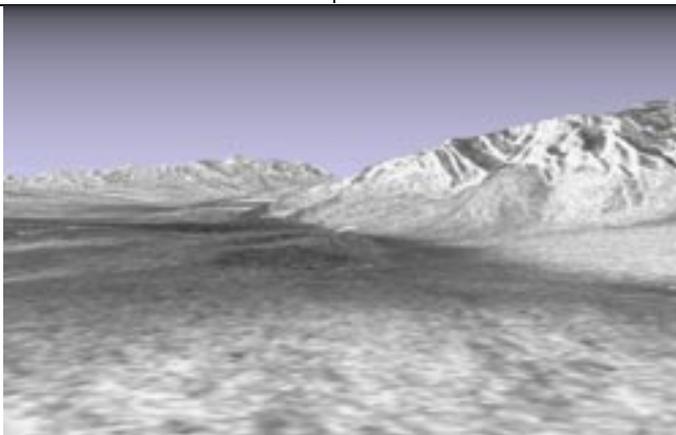
3) This Hawaiian volcano is surrounded by ocean. What processes important to life are visible?



4) A false-color image of meanders & oxbows on the Mississippi. What do these features indicate about how long the river has flowed?



5) How do agricultural patterns in Argentina (above) and deforestation in Brazil (below) indicate life on Earth?



6) This computer-generated view of California's Death Valley is based on elevation data collected by the Galileo spacecraft. Though this scene is dry, what evidence is there for water? Why are there no craters visible? What about this scene is similar to other planets? What is different?



7) Buenos Aires, Argentina is on the left. Rio Parana is in the center, and undeveloped land in Uruguay is on the right. Does anything tell you that this area has been altered from its natural state or that 13 million people live in this city? What man-made features can you recognize?



8) Left is part of the Ganges River delta in Bangladesh. The channels flow through mangrove forests (dark areas) into the Bay of Bengal. The light areas are deforested mangrove areas that now support a very large human population. Why aren't the channels straight? What processes important to life are illustrated here?